

AFCTN Test Report 94-078

AFCTB-ID
94-029



Conversion of MIL-STD-ATOS to MIL-M-28001 Tag Set

Using:



AGMC/MLEP JCALS Test Site's Data
TO 33K3-4-313-1

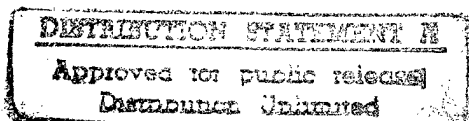


MIL-STD-1840A
MIL-M-28001A (SGML)
MIL-R-28002A (Raster)
MIL-D-28003 (CGM)



Quick Short Test Report

21 April 1994



19960822 120



Prepared for
Electronic Systems Center
Air Force CALS Program Office
HQ ESC/AV-2
4027 Colonel Glenn Hwy, Suite 300
Dayton, Ohio 45431-1672

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Quick Short Test Report

21 April 1994

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Air Force CALS Test Bed

Notification of Test Results

21 April 1994

This notice documents the results of an Air Force CALS Test Bed (AFCTB) Quick Short Test Report (QSTR) evaluation of data submitted by:

AGMC/MLEP

Identified as follows:

Title:	ATOS TO 33K3-4-313-1
Program:	JCALS Test Site Data
Program Office:	AGMC/MLEP
Contract No.:	N/A
QSTR No.:	AFCTB-ID 94-029

Received on the following media: **9-track tape**

The results of the QSTR evaluation are as follows:

MIL-STD-1840A Standard	Fail
MIL-STD-1840A Media Format:	Pass
MIL-D-28000A IGES:	N/A
MIL-M-28001A SGML:	Fail
MIL-R-28002A Raster:	Pass
MIL-D-28003 CGM:	Fail

Formal results with associated disclaimer are documented and available from the AFCTB.

**Air Force CALS Test Bed
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Dayton, OH 45431-1672
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1. Introduction

1.1 Background

The Department of Defense (DoD) Air Force Continuous Acquisition and Life-cycle Support (CALS) Test Network (AFCTN) is conducting tests of the military standard for the Automated Interchange of Technical Information, MIL-STD-1840A, and its companion suite of military specifications. The AFCTN is a DoD sponsored confederation of voluntary participants from industry and government managed by the Electronic Systems Center (ESC).

The primary objective of the AFCTN is to evaluate the effectiveness of the CALS standards for technical data interchange and to demonstrate the technical capabilities and operational suitability of those standards. Two general categories of tests are performed to evaluate the standards; formal and informal.

Formal tests are large and comprehensive, which follow a written test plan, require specific authorization from the DoD, and may take months to prepare, execute, and report.

Informal tests are quick and short, used by the AFCTN technical staff, to broaden the testing base. They include representative samples of the many systems and applications used by AFCTN participants. They also allow the AFCTN staff to gain feedback from many industry and government interpretations of the standards, to increase the base of participation in the CALS initiative, and respond to the many requests for help that come from participants. Participants take part voluntarily, benefit by receiving an evaluation of their latest implementation (interpretation) of the standards, interact with the AFCTN technical staff, gain experience using the standards, and develop increased confidence in them. The results of informal tests are reported in Quick Short Test Reports (QSTRs) that briefly summarize the standard(s) tested, the hardware and software used, the nature of the test, and the results.

1.2 Purpose

The purpose of the informal test, reported in this QSTR, was to analyze AGMC/MLEP's interpretation and use of the CALS standards in transferring technical publication data. AGMC/MLEP used its CALS Technical Data Interchange System to produce data, in accordance with the standards, and delivered it to the AFCTN technical staff on a 9-track magnetic tape.

2. Test Parameters

Test Plan: AFCTB 94-029

Date of
Evaluation: 21 April 1994

Evaluator: George Elwood
Air Force CALS Test Bed
DET 2 HQ ESC/AV-2P
4027 Colonel Glenn Hwy
Suite 300
Dayton OH 45431-1672

Data
Originator: Mike Baker
AGMC/MLEP
813 Irvinwick Dr W
Newark AFB OH 43057-0001
(DSN) 346-7717

Data
Description: Technical Manual Test
3 Document Declaration files
3 Document Type Definitions (DTDs)
3 Text/Standard Generalized Markup Language
(SGML) files
13 Raster files
13 Computer Graphics Metafile (CGM) files

Data
Source System:

1840

HARDWARE

Unknown

SOFTWARE

Unknown

Text/SGML

HARDWARE

VAX 11785

SOFTWARE

Syscon Product Control Systems R6.501

Raster

HARDWARE
Unknown
SOFTWARE
Unknown

CGM

HARDWARE
Unknown
SOFTWARE
Auto-trol S5000

Evaluation Tools Used:

MIL-STD-1840A (TAPE)

SUN 3/280
AFCTN Tapetool v1.2.10 UNIX
XSoft CAPS/CALS v40.4

MIL-M-28001 (SGML)

SUN SparcStation 2
ArborText ADEPT v4.2.1

PC 486/50
Exoterica XGMLNormalizer v1.2e3.2
Exoterica Validator v2.0 ex1
McAfee & McAdam Sema Mark-it v2.3
Public Domain sgmls

MIL-R-28002 (Raster)

SGI Indigo2
IGES Data Analysis (IDA) CALSView

SUN SparcStation 2
ArborText g42tiff
Carberry CADLeaf Plus v3.1
AFCTN xrastb.sun4
IDA IGESView v3.0
Island Software IslandPaint v3.0
Rosetta Technologies Prepare
Rosetta Technologies Preview v3.2

PC 486

AFCTN validg4
IDA IGESView Windows
Inset Systems HiJaak v2.1
Inset Systems HiJaak Pro
Expert Graphics RxHighlight v1.0
Corel Ventura Publisher

MIL-D-28003 (CGM)

SGI Indigo 2

IDA CALSView

SUN SparcStation 2

ArborText cgm2draw
Carberry CADLeaf Plus v3.1
Island Software IslandDraw v3.0
Island Software IslandDraw v4.0

PC 486/50

Advanced Technology Center
(ATC) MetaCheck R 2.10
Software Publishing Corporation
(SPC) Harvard Graphics v3.05
Inset Systems HiJaak Pro
Lotus Freelance v2.01
Micrografx Designer v4.0
Corel Ventura Publisher

Standards
Tested:

MIL-STD-1840A
MIL-M-28001A
MIL-R-28002A
MIL-D-28003

3. 1840A Analysis

3.1 External Packaging

The tape arrived at the Air Force CALS Test Bed (AFCTB) enclosed in a commercial mail envelop. The exterior of the envelop was marked with a magnetic tape warning label, as required by MIL-STD-1840A, para. 5.3.1.3.

The tape was not enclosed in a barrier bag or barrier sheet material, as required by MIL-STD-1840A, para. 5.3.1.2. Inspection of the tape reel showed the label indicating the recording density as required by MIL-STD-1840A, para. 5.3.1 was missing. Some 9-track tape units require this BPI to be set manually. Enclosed in the box was a packing list showing all files recorded on the tape.

3.2 Transmission Envelope

The 9-track tape received by the AFCTB contained MIL-STD-1840A files. The files were named per the standard conventions.

3.2.1 Tape Formats

The tape was run through the AFCTN *Tapetool* v1.2.10 utility. No errors were encountered while evaluating the contents of the tape labels.

The tape was read using the XSoft *CAPS read1840A* utility without any reported errors.

The physical structure of the tape meets the CALS MIL-STD-1840A and ANSI x3.27 requirements.

3.2.2 Declaration and Header Fields

No errors were found in the Document Declaration file and data file headers. The tape format meets the requirements defined in MIL-STD-1840A.

4. IGES Analysis

No Initial Graphics Exchange Specification (IGES) files were included in this evaluation.

5. SGML Analysis

The AFCTB has several parsers available for evaluating submitted DTD and text files. These tools are not used to generate a pass/fail but to report how commercially available software can handle the files. These products are used in the development of technical publications and are good indicators of usability. The use of these products is not an endorsement nor an indication of CALS capability. All operations were performed using the default settings unless specified in the report.

The tape contained three DTD and text files. The DTD pointed to MIL-M-38784B as the primary DTD. The file only contained the graphic references. All three text files were parsed using a 38784B DTD available within the AFCTB. Because many DTDs were changed slightly from the baseline, a complete DTD should have been included.

The text and DTD files were evaluated using a parser available within the AFCTB. One warning was issued for the generic DTD used and related to a defined but not used entity. Text file number three would not parse due to system memory limitations.

The text and DTD files were evaluated using the Exoterica *Validator* ex1 parser. Two warnings were issued for all DTDs. This is a defined but not used entity and an unreferenced ID in the text file. Text file 9429-3 had five reported errors. All of these errors were the same and occurred in the same location in the document. The error was a null value in the colname attribute.

An attribute, other than a CDATA attribute, must not have a null literal (") value or a value that does not have any name tokens in it. In the start tag for element "ENTRY", value for the NMTOKEN attribute "COLNAME" is empty. <entry colname="">* Used for Quartz Accelerometers with built-in Amplifier

The text and DTD files were tested using the Exoterica *XGML-Normalizer* parser. No errors or warnings were issued for all files except 9429-3.TXT. This file had five reported errors. These were the same errors as reported above.

The text and DTD files were evaluated using McAfee & McAdam's *Sema Mark-it v2.3* parser. Five errors were reported in file 9429-3.TXT. These were the same errors as reported above.

The text and DTD files were evaluated using the Public Domain *sgmls* parser. The same five errors reported above were also reported by this parser.

The text file 9429-1 was imported into ArborText's Adept software and published. The generic Format Output Specification Instance (FOSI) available within the AFCTB was used for this document. A copy of the title page is included in Appendix B, Section 10.6 of this report.

According to Chris Moffett of ArborText, Inc., "This (or These) warning(s) may be due to a syntax error in the DTD."

The SGML files do not meet the CALS MIL-M-28001A specification, due to the errors in the third document text file. Note: The complete DTD should be included.

6. Raster Analysis

The tape contained 12 Raster files. All files were evaluated using the AFCTN *validg4* utility. This program reported all files meet the CALS MIL-R-28002A specifications.

The files were read into the AFCTN *xrastb.sun4* viewing utility. No problems were noted. It was noted, however, that the orientation of the files varied. File D003R003 was displayed upside down. The remaining files were displayed with the bottom edge toward the left side of the screen.

The AFCTB has several tools for viewing Raster files. These tools are not used to generate a pass/fail but to report how commercially available software can handle the files. Many of these products are used in the development of technical publications and are good indicators of usability. The use of these products is not an endorsement nor an indication of CALS capability. All operations were performed using the default settings. All files were viewed by at least three software program. Because no problems were noted, only one sample file is included in Appendix C, Section 11.1.

The files were converted using ArborText's *g42tiff* utility without a reported error. The resulting files were read into Island Software's *IslandPaint* and displayed.

The Raster files were read into Carberry's *CADLeaf* software without a reported error. The images were displayed and printed. The variation in the bottom location was noted.

The files were read and displayed using IDA's *CALSTView* with no reported problems. File R303 displayed with the bottom toward the left side, and the remaining files displaying correctly.

The files were read into IDA's *IGESView* and *IGESView for Windows* without a reported error. File R303 displayed with the bottom edge along the left side of the screen. The remaining files displayed correctly.

The files were read into Inset Systems' *HiJaak for Windows* without a reported error. File R303 displayed upside down. The remaining files displayed with the bottom toward the left side of the screen.

The Raster files were converted using Rosetta Technologies' *Prepare* without a reported error. The resulting files were read into Rosetta Technologies' *Preview* and displayed. File R303 displayed with the bottom of the image toward the left side of the screen. The remaining files displayed correctly.

The Raster files were imported into Expert Graphics' *Rx-Highlight* and displayed without a reported error. File R303 displayed upside down, while the remaining files displayed with the bottom toward the left side of the screen.

While the files were correct, the orientation varied between applications. This may be where the application reads the orientation information from. The applications that uses the CALS header information displayed the images with an incorrect orientation. The files meet the CALS MIL-R-28002A specification.

7. CGM Analysis

The tape contained 13 CGM files. The files were evaluated using ATC's *MetaCheck* with CALS options. This utility reported that all 12 files failed to meet the CALS MIL-D-28003 specification. Inspection of the files showed all permitted fonts were included in the files. However, MIL-D-28003, Table I, Note 2, permits only four simultaneous fonts. It should be noted that MIL-D-28003A permits 32 fonts per file.

The CGM files were evaluated using the beta AFCTN *validcgm* utility. This utility reported the same error as ATC's *MetaCheck*.

The AFCTB has several tools for viewing CGM files. These tools are not used to generate a pass/fail but to report how commercially available software can handle the files. Many of these products are used in the development of technical publications and are good indicators of usability. The use of these products is not an endorsement nor an indication of CALS capability. All operations were performed using the default settings.

All files were viewed using at least three different software applications. Because of the large number of CGM files only one file, D002C012 (c212.cgm), was selected for detailed analysis. In the selected file, the text font was the most noticeable variation.

The CGM files were converted using ArborText's *cgm2draw* utility without a reported error. The resulting files were read into Island Software's *IslandDraw* v3.1 and displayed. The selected file appeared to be correct. The image exceeded the screen page and had to be reduced.

The files were read into Carberry's *CADLeaf* software and displayed. The text extended beyond the screen boundaries.

The files were read into IDA's *CALSVIEW*. The text exceeded the screen boundaries.

The files were imported into the Micrografx *Designer* without a reported error. The text was offset to the left.

According to Michael Harrison of Micrografx, Inc., "The version of Micrografx Designer used with this report has been replaced with Designer version 4.1TE which reads and prints these files successfully."

The files were imported into Lotus' *Freelance* and displayed. The text was offset to the left.

The files were imported into SPC's *Harvard Graphics* v3.05 with a reported error. Clipping of objects and adjusted entities were reported. Most of the text did not display or print.

The files were read into Inset Systems' *HiJaak Pro* without a reported error.

The files were imported directly into Island Software's *IslandDraw* v4.0 without a reported error. The text was noted as offset to the left.

The files were imported into Corel's *Ventura Publisher* without a reported error. When displayed and printed, the lines within the box were not visible. The text was offset to the left.

The CGM files do not meet the CALS MIL-D-28003, due to the errors in the fonts.

8. Conclusions and Recommendations

The tape submitte by AGMC/MLP had no reported errors in the physical structure. The required format and CALS headers were found to be error free. The structure of the tape meets the CALS MIL-STD-1840A requirements.

The SGML files do not meet the CALS MIL-M-28001A specification. Using a generic DTD available within the AFCTB, only one text file was found to be in error. All parsers reported the same errors in file D003T001.

The Raster files meet the CALS MIL-R-28002A specification. Some variation was noted between application of the image orientations.

The CGM files do not meet the CALS MIL-D-28003, due to the presence of more fonts than permitted.

The tape does not meet the CALS MIL-STD-1840A requirements, because of the errors in the SGML and CGM files.

9. Appendix A - Tapetool Report Logs

9.1 Tape Catalog

CALS Test Network Catalog Evaluation - Version 1.2; Release 10 (C)

Standards referenced:

- MIL-STD-1840A (1987) - Automated Interchange of Technical Information
- ANSI X3.27 (1987) - File Structure and labeling of Magnetic Tapes
for Information Interchange
- ANSI X3.4 (1986) - Coded Character Sets - 7 Bit ASCII

Wed Apr 20 11:13:32 1994

MIL-STD-1840A File Catalog

File Set Directory: /cals/u1210/Set061

Page: 1

File Name	File Type	Record Format/ Length	Block Length/Total	Selected/ Extracted
D001	Document Declaration	D/00260	02048/000001	Extracted
D002	Document Declaration	D/00260	02048/000001	Extracted
D003	Document Declaration	D/00260	02048/000001	Extracted
D001T001	Text	D/00260	02048/000017	Extracted
D001G002	DTD	D/00260	02048/000001	Extracted
D001C003	CGM	F/00080	00800/000008	Extracted
D002T001	Text	D/00260	02048/000017	Extracted
D002G002	DTD	D/00260	02048/000001	Extracted
D002C003	CGM	F/00080	00800/000002	Extracted

<<<< PART OF LOG FILE REMOVED HERE >>>>

D003T001	Text	D/00260	02048/000062	Extracted
D003G002	DTD	D/00260	02048/000001	Extracted
D003R003	Raster	F/00128	02048/000025	Extracted

<<<< PART OF LOG FILE REMOVED HERE >>>>

D003R013	Raster	F/00128	02048/000008	Extracted
D003R014	Raster	F/00128	02048/000008	Extracted

Catalog Process terminated normally.

9.2 Tape Evaluation Log

CALS Test Network Tape Evaluation - Version 1.2; Release 10 (C)

Standards referenced:

ANSI X3.27 (1987) - File Structure and labeling of Magnetic Tapes
for Information Interchange

ANSI X3.4 (1986) - Coded Character Sets - 7 Bit ASCII

Wed Apr 20 11:13:01 1994

ANSI Tape Import Log

Allocating tape drive /dev/rmt0...

/dev/rmt0 allocated.

VOL1CALS01

4

Label Identifier: VOL1
Volume Identifier: CALS01
Volume Accessibility:
Owner Identifier:
Label Standard Version: 4

HDR1D001 CALS0100010001000000 94087 00000 000000

Label Identifier: HDR1
File Identifier: D001
File Set Identifier: CALS01
File Section Number: 0001
File Sequence Number: 0001
Generation Number: 0000
Generation Version Number: 00
Creation Date: 94087
Expiration Date: 00000
File Accessibility:
Block Count: 000000
Implementation Identifier:

<<<<< PART OF LOG FILE REMOVED HERE >>>>>

End of Volume CALS01 #####
End Of Tape File Set #####
Deallocating /dev/rmt0...
Tape Import Process terminated normally.

9.3 Tape File Set Validation Log

CALS Test Network File Set Evaluation - Version 1.2; Release 10 (C)

Standards referenced:

MIL-STD-1840A (1987) - Automated Interchange of Technical Information

Wed Apr 20 11:13:33 1994

MIL-STD-1840A File Set Evaluation Log

File Set: Set061

Found file: D001

Extracting Document Declaration Header Records...

Evaluating Document Declaration Header Records...

srcsys: Aerospace Guidance and Metrology Center, AGMC/MLEP, Newark AFB, OH 43057

srcdocid: 33K8-4-143-1

srcrelid: NONE

chglvl: ORIGINAL

dteisu: 19930815

dstsys: JCALS TEST SITE

dstdocid: 33K8-4-143-1

dstrelid: NONE

dtetrm: 19940328

dlvacc: NONE

filcnt: T1,C1,G1

ttlcls: UNCLASSIFIED

doccls: UNCLASSIFIED

doctyp: MILB Technical Publication

docttl: UNKNOWN

Found file: D001T001

Extracting Text Header Records...

Evaluating Text Header Records...

srcdocid: 33K8-4-143-1

dstdocid: 33K8-4-143-1

txtfilid: W

doccls: UNCLASSIFIED

notes: The SGML Text File was converted from an ATOS MILB Tag Set to a MIL-M-28001 tag set.

Saving Text Header File: D001T001_HDR

Saving Text Data File: D001T001_TXT

Found file: D001G002
Extracting DTD Header Records...
Evaluating DTD Header Records...

srcdocid: 33K8-4-143-1
dstdocid: 33K8-4-143-1
notes: The SGML Text File was converted from an ATOS MILB Tag Set to a
MIL-M-28001 tag set.

Saving DTD Header File: D001G002_HDR
Saving DTD Data File: D001G002_DTD

Found file: D001C003
Extracting CGM Header Records...
Evaluating CGM Header Records...

srcdocid: 33K8-4-143-1
dstdocid: 33K8-4-143-1
txtfilid: W
figid: NONE
srcgph: D012C003
doccls: UNCLASSIFIED
notes: This figure is referenced on page 7.

Saving CGM Header File: D001C003_HDR
Saving CGM Data File: D001C003_CGM

Evaluating numbering scheme...
No errors were encountered during numbering scheme evaluation.
Numbering scheme evaluation complete.

Checking file count...
No errors were encountered during file count verification.
File Count verification complete.

No errors were encountered in Document D001.

Found file: D002

<<<< PART OF LOG FILE REMOVED HERE >>>>

Evaluating numbering scheme...
No errors were encountered during numbering scheme evaluation.
Numbering scheme evaluation complete.

Checking file count...
No errors were encountered during file count verification.
File Count verification complete.

No errors were encountered in Document D002.

Found file: D003

<<<<< PART OF LOG FILE REMOVED HERE >>>>>

Evaluating numbering scheme...

No errors were encountered during numbering scheme evaluation.
Numbering scheme evaluation complete.

Checking file count...

No errors were encountered during file count verification.
File Count verification complete.

No errors were encountered in Document D003.

No errors were encountered in this File Set.

MIL-STD-1840A File Set Evaluation Complete.

9.4 Other Tape Reading Logs

```
/cals/caps/Bin/read1840A: --- Read declaration file 'D001      ' ---  
/cals/caps/Bin/read1840A: --- Read declaration file 'D002      ' ---  
/cals/caps/Bin/read1840A: --- Read declaration file 'D003      ' ---  
/cals/caps/Bin/read1840A: writing data file 'qstr9429/33K8-4-143-1/W.T.sgm'.  
/cals/caps/Bin/read1840A: writing data file 'qstr9429/33K8-4-143-1/  
33K841431.G.dtd'.  
/cals/caps/Bin/read1840A: writing data file 'qstr9429/33K8-4-143-1/  
D012C003.C.cgm'.  
-- declaration file indicates 1 files of type T  
-- declaration file indicates 1 files of type G  
-- declaration file indicates 0 files of type H  
-- declaration file indicates 0 files of type Q  
-- declaration file indicates 0 files of type R  
-- declaration file indicates 1 files of type C  
-- declaration file indicates 0 files of type X  
-- declaration file indicates 0 files of type P  
-- declaration file indicates 0 files of type Z  
/cals/caps/Bin/read1840A: writing data file 'qstr9429/33K3-4-1202-1/W.T.sgm'.  
/cals/caps/Bin/read1840A: writing data file 'qstr9429/33K3-4-1202-1/  
33K3412021.G.dtd'.  
/cals/caps/Bin/read1840A: writing data file 'qstr9429/33K3-4-1202-1/  
D022C003.C.cgm'.  
/cals/caps/Bin/read1840A: writing data file 'qstr9429/33K3-4-1202-1/  
D022C004.C.cgm'.  
/cals/caps/Bin/read1840A: writing data file 'qstr9429/33K3-4-1202-1/  
D022C005.C.cgm'.  
/cals/caps/Bin/read1840A: writing data file 'qstr9429/33K3-4-1202-1/  
D022C006.C.cgm'.  
/cals/caps/Bin/read1840A: writing data file 'qstr9429/33K3-4-1202-1/  
D022C007.C.cgm'.  
/cals/caps/Bin/read1840A: writing data file 'qstr9429/33K3-4-1202-1/  
D022C008.C.cgm'.  
/cals/caps/Bin/read1840A: writing data file 'qstr9429/33K3-4-1202-1/  
D022C009.C.cgm'.  
/cals/caps/Bin/read1840A: writing data file 'qstr9429/33K3-4-1202-1/  
D022C010.C.cgm'.  
/cals/caps/Bin/read1840A: writing data file 'qstr9429/33K3-4-1202-1/  
D022C011.C.cgm'.  
/cals/caps/Bin/read1840A: writing data file 'qstr9429/33K3-4-1202-1/  
D022C012.C.cgm'.  
/cals/caps/Bin/read1840A: writing data file 'qstr9429/33K3-4-1202-1/  
D022C013.C.cgm'.  
/cals/caps/Bin/read1840A: writing data file 'qstr9429/33K3-4-1202-1/  
D022C014.C.cgm'.  
-- declaration file indicates 1 files of type T
```

```
-- declaration file indicates 1 files of type G
-- declaration file indicates 0 files of type H
-- declaration file indicates 0 files of type Q
-- declaration file indicates 0 files of type R
-- declaration file indicates 12 files of type C
-- declaration file indicates 0 files of type X
-- declaration file indicates 0 files of type P
-- declaration file indicates 0 files of type Z
/cals/caps/Bin/read1840A: writing data file 'qstr9429/33K3-4-313-1/W.T.sgm'.
/cals/caps/Bin/read1840A: writing data file 'qstr9429/33K3-4-313-1/
33K343131.G.dtd'.
/cals/caps/Bin/read1840A: writing data file 'qstr9429/33K3-4-313-1/
D029R003.R.cci'.
/cals/caps/Bin/read1840A: writing data file 'qstr9429/33K3-4-313-1/
D029R004.R.cci'.
/cals/caps/Bin/read1840A: writing data file 'qstr9429/33K3-4-313-1/
D029R005.R.cci'.
/cals/caps/Bin/read1840A: writing data file 'qstr9429/33K3-4-313-1/
D029R006.V.cci'.
/cals/caps/Bin/read1840A: writing data file 'qstr9429/33K3-4-313-1/
D029R007.R.cci'.
/cals/caps/Bin/read1840A: writing data file 'qstr9429/33K3-4-313-1/
D029R008.R.cci'.
/cals/caps/Bin/read1840A: writing data file 'qstr9429/33K3-4-313-1/
D029R009.R.cci'.
/cals/caps/Bin/read1840A: writing data file 'qstr9429/33K3-4-313-1/
D029R010.R.cci'.
/cals/caps/Bin/read1840A: writing data file 'qstr9429/33K3-4-313-1/
D029R011.R.cci'.
/cals/caps/Bin/read1840A: writing data file 'qstr9429/33K3-4-313-1/
D029R012.R.cci'.
/cals/caps/Bin/read1840A: writing data file 'qstr9429/33K3-4-313-1/
D029R013.R.cci'.
/cals/caps/Bin/read1840A: writing data file 'qstr9429/33K3-4-313-1/
D029R014.R.cci'.
-- declaration file indicates 1 files of type T
-- declaration file indicates 1 files of type G
-- declaration file indicates 0 files of type H
-- declaration file indicates 0 files of type Q
-- declaration file indicates 12 files of type R
-- declaration file indicates 0 files of type C
-- declaration file indicates 0 files of type X
-- declaration file indicates 0 files of type P
-- declaration file indicates 0 files of type Z
```

10. Appendix B - Detailed SGML Analysis

10.1 Parser Log

10.1.1 9429-1 Log

SGML Document Type Definition Parser
An SGML System Conforming to
International Standard ISO 8879
Standard Generalized Markup Language

Log file: '9429-1.LOG'
SDO File: 'ctndocl.sdo'
Namecase General is yes.
Namecase Entity is no.
Parsing DTD file: '9429-1.dtd'
Parsing DOCTYPE DOC

DTD0096: The generic ID SHORTTITLE has not been used in any content
model, inclusion, or as a doctype element.
This DTD conforms to the ISO 8879 standard

DTO file '9429-1.DTO' created

closing statistics:
Capacity points: 62184
Bytes of DTO file string space: 12890
SGML descriptor blocks: 6519

Document Type Definition is compliant and parsed normally.

Program status code: 0.

10.1.2 9429-3 Log

IPA0108: *** SGML Instance Parser Log File ***
Source Document File: '9429-3.txt'.
Job File: '9429-3.jbf'.
DTD File: ''.
SGML Declaration File: ''.

Reading File '9429-3.jbf', File Type 'JOB FILE'.

Concrete Syntax Settings In Effect For This Parse:

NAMECASE GENERAL: YES.
NAMECASE ENTITY: NO.
NAMELEN: 32.
SHORTTAG: YES.

Closed '9429-3.jbf', File Type 'JOB FILE'.

Reading File '9429-3.txt', File Type 'DIRECT INPUT FILE'.

--> Scanned Up To Line 100 In 9429-3.txt.
--> Scanned Up To Line 200 In 9429-3.txt.
--> Scanned Up To Line 300 In 9429-3.txt.

<<<<< PART OF LOG FILE REMOVED HERE >>>>>

--> Scanned Up To Line 2900 In 9429-3.txt.
--> Scanned Up To Line 3000 In 9429-3.txt.

IPA0059: Memory Allocation Failure.
Error On Line 3063.
State:

'DOC.BODY.CHAPTER.SECTION.PARA0.SUBPARA1.SUBPARA2.PARA.TABLE.TGROUP.TBODY
.ROW.ENTRY'.
Fatal Error Encountered.

10.2 Exoterica XGMLNormalizer Parser

10.2.1 9429-3 Text Log

```
C:\XGML\XGMLNORM.EXE --  
Error on line 133 in file i:\94029\9429-3.txt:  
Attribute type does not permit a null literal (") value.  
For start tag 'ENTRY': For IMPLIED NMTOKEN attribute 'COLNAME'="".
```

```
C:\XGML\XGMLNORM.EXE --  
Error on line 137 in file i:\94029\9429-3.txt:  
Attribute type does not permit a null literal (") value.  
For start tag 'ENTRY': For IMPLIED NMTOKEN attribute 'COLNAME'="".
```

```
C:\XGML\XGMLNORM.EXE --  
Error on line 145 in file i:\94029\9429-3.txt:  
Attribute type does not permit a null literal (") value.  
For start tag 'ENTRY': For IMPLIED NMTOKEN attribute 'COLNAME'="".
```

```
C:\XGML\XGMLNORM.EXE --  
Error on line 154 in file i:\94029\9429-3.txt:  
Attribute type does not permit a null literal (") value.  
For start tag 'ENTRY': For IMPLIED NMTOKEN attribute 'COLNAME'="".
```

```
C:\XGML\XGMLNORM.EXE --  
Error on line 290 in file i:\94029\9429-3.txt:  
Attribute type does not permit a null literal (") value.  
For start tag 'ENTRY': For IMPLIED NMTOKEN attribute 'COLNAME'="".
```

10.3 Exoterica Validator

10.3.1 9429-1 Log

```
<!-- **Warning** in "\xgml\9429-1.dtd", line 1:
  An element is not allowed in the document instance because it does not
  appear in any accessible content model or it is completely excluded.
  The element is "SHORTTITLE".
-->
<!-- **Warning** in "i:\94029\9429-1.txt", line 1:
  There is no element with an IDREF or IDREFS attribute value equal to a
  specified ID value.
  The unreferenced ID attribute value is "TBL4".
-->
<!-- 2 warnings reported. -->
```

10.3.2 9429-3 Log

```
<!-- **Warning** in "\xgml\9429-3.dtd", line 1:
  An element is not allowed in the document instance because it does not
  appear in any accessible content model or it is completely excluded.
  The element is "SHORTTITLE".
-->
<!-- **Error** in "i:\94029\9429-3.txt", line 1:
  An attribute other than a CDATA attribute must not have a null literal (")
  value or a value that does not have any name tokens in it.
  In the start tag for element "ENTRY", value for the NMTOKEN attribute
  "COLNAME" is empty.
  <entry colname="">* Used for Quartz Accelerometers with built-in
  Amplifier
-->
<!-- **Error** in "i:\94029\9429-3.txt", line 1:
  An attribute other than a CDATA attribute must not have a null literal (")
  value or a value that does not have any name tokens in it.
  In the start tag for element "ENTRY", value for the NMTOKEN attribute
  "COLNAME" is empty.
  <entry colname="">** Laboratories having the Bruel and Kjaer 9610
  Vibratio
-->
<!-- **Error** in "i:\94029\9429-3.txt", line 1:
  An attribute other than a CDATA attribute must not have a null literal (")
  value or a value that does not have any name tokens in it.
```

```
In the start tag for element "ENTRY", value for the NMTOKEN attribute
"COLNAME" is empty.
<entry colname="">*** Laboratories having the AF75D Vibration
Calibration
^
-->
<!-- **Error** in "i:\94029\9429-3.txt", line 1:
  An attribute other than a CDATA attribute must not have a null literal ("")
  value or a value that does not have any name tokens in it.
  In the start tag for element "ENTRY", value for the NMTOKEN attribute
  "COLNAME" is empty.
  <entry colname="">**** Provision can be provided to extend the
frequency r
^
-->
<!-- **Error** in "i:\94029\9429-3.txt", line 1:
  An attribute other than a CDATA attribute must not have a null literal ("")
  value or a value that does not have any name tokens in it.
  In the start tag for element "ENTRY", value for the NMTOKEN attribute
  "COLNAME" is empty.
  <entry colname="">Multiply numerical value of:
<row>
<entry colname="col1"
^
-->
<!-- **Warning** in "i:\94029\9429-3.txt", line 1:
  There is no element with an IDREF or IDREFS attribute value equal to a
  specified ID value.
  The unreferenced ID attribute value is "S2-4".
-->
<!-- 5 errors and 2 warnings reported. -->
```

10.4 Sema Mark-it Log

```
</ENTRY></ROW><ROW SCILEVEL="0"><ENTRY COLNAME="COL1" MOREROWS="0" ROTATE="0"
VALIGN="TOP" SCILEVEL="0"> <!--*** file:9429-3.TXT line:133 pos:4067
Incorrect number of tokens found in the literal for attribute COLNAME.
(Spaces are only permitted in lists and CDATA entries.
Empty lists are invalid.)-->
```

```
</ENTRY><ENTRY COLNAME="dummy" MOREROWS="0" ROTATE="0" VALIGN="TOP"
SCILEVEL="0">* Used for Quartz Accelerometers with built-in Amplifier.
```

```
</ENTRY></ROW><ROW SCILEVEL="0"><ENTRY COLNAME="COL1" MOREROWS="0" ROTATE="0"
VALIGN="TOP" SCILEVEL="0"> <!--*** file:9429-3.TXT line:137 pos:4174
Incorrect number of tokens found in the literal for attribute COLNAME.
(Spaces are only permitted in lists and CDATA entries.
Empty lists are invalid.)-->
```

```
</ENTRY><ENTRY COLNAME="dummy" MOREROWS="0" ROTATE="0" VALIGN="TOP"
SCILEVEL="0">** Laboratories having the Bruel and Kjaer 9610 Vibration
Transducer Calibration System will use the alternative method of calibration
(paras 4.3 and 4.4). Para 4.8 is for a checkout of the P/N 9610's
P/N WB0785 Precision Attenuator.
```

```
</ENTRY></ROW><ROW SCILEVEL="0"><ENTRY COLNAME="COL1" MOREROWS="0" ROTATE="0"
VALIGN="TOP" SCILEVEL="0"> <!--*** file:9429-3.TXT line:145 pos:4463
Incorrect number of tokens found in the literal for attribute COLNAME.
(Spaces are only permitted in lists and CDATA entries.
Empty lists are invalid.)-->
```

```
</ENTRY><ENTRY COLNAME="dummy" MOREROWS="0" ROTATE="0" VALIGN="TOP"
SCILEVEL="0">*** Laboratories having the AF75D Vibration Calibration System
will use the alternate method of calibration (paras 4.5 and 4.6). Para 4.7 is
only for Checkout of the AF75D Vibration Calibration System using the AF75D's
Ref #1 Accelerometer.
```

```
</ENTRY></ROW><ROW SCILEVEL="0"><ENTRY COLNAME="COL1" MOREROWS="0" ROTATE="0"
VALIGN="TOP" SCILEVEL="0"> <!--*** file:9429-3.TXT line:154 pos:4759
Incorrect number of tokens found in the literal for attribute COLNAME.
(Spaces are only permitted in lists and CDATA entries.
Empty lists are invalid.)-->
```

10.5 Public Domain sgmls Log

10.5.1 9429-3 Log

```
sgmls: SGML error at i:\94029\9429-3.txt, line 133 at "":  
COLNAME = "" attribute defaulted: empty string not allowed for token  
Element structure: DOC BODY CHAPTER SECTION PARA0 PARA TABLE TGROUP  
TBODY ROW ENTRY  
sgmls: SGML error at i:\94029\9429-3.txt, line 137 at "":  
COLNAME = "" attribute defaulted: empty string not allowed for token  
Element structure: DOC BODY CHAPTER SECTION PARA0 PARA TABLE TGROUP  
TBODY ROW ENTRY  
sgmls: SGML error at i:\94029\9429-3.txt, line 145 at "":  
COLNAME = "" attribute defaulted: empty string not allowed for token  
Element structure: DOC BODY CHAPTER SECTION PARA0 PARA TABLE TGROUP  
TBODY ROW ENTRY  
sgmls: SGML error at i:\94029\9429-3.txt, line 154 at "":  
COLNAME = "" attribute defaulted: empty string not allowed for token  
Element structure: DOC BODY CHAPTER SECTION PARA0 PARA TABLE TGROUP  
TBODY ROW ENTRY  
sgmls: SGML error at i:\94029\9429-3.txt, line 290 at "":  
COLNAME = "" attribute defaulted: empty string not allowed for token  
Element structure: DOC BODY CHAPTER SECTION PARA0 SUBPARA1 SUBPARA2  
PARA TABLE TGROUP THEAD ROW ENTRY  
TOTALCAP 131700/200000  
ENTCAP 13504/200000  
ENTCHCAP 7981/200000  
ELEMCAP 4768/200000  
GRPCAP 41824/200000  
EXGRPCAP 416/200000  
EXNMCAP 896/200000  
ATTCAP 37536/200000  
ATTCHCAP 516/200000  
AVGRPCAP 17344/200000  
NOTCAP 96/200000  
NOTCHCAP 163/200000  
IDCAP 6656/200000
```

10.6 Front Cover - ArborText

TO 33K8-4-143-1

TECHNICAL MANUAL

CALIBRATION PROCEDURE FOR TRMS DIGITAL MULTIMETER

179

(KEITHLEY)

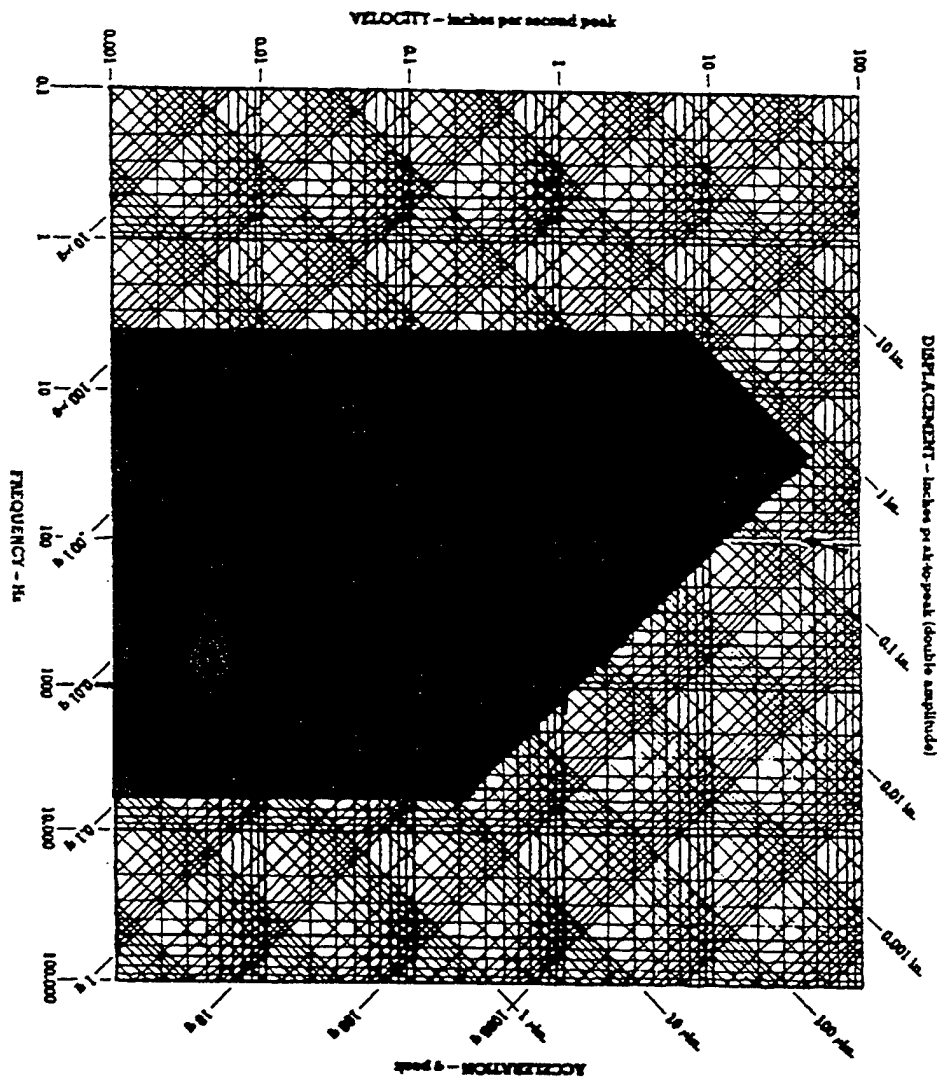
This publication replaces TO 33K8-4-143-1 dated 15 February 1992. Distribution Statement - Distribution authorized to U.S. Government agencies and their contractors for official use or for administrative or operational purposes only, 22 July 1991. Other requests for this document shall be referred to AGMC/MLEP, Newark AFB OH 43057-0001. Destruction Notice - For unclassified, limited documents, destroy by any method that will prevent disclosure of the contents or reconstruction of the document. Published under Authority of the Secretary of the Air Force

15 AUGUST 1993

11. Appendix C - Detailed Raster Analysis

11.1 File D003R008

11.1.1 Output HiJaak Pro



12. Appendix D - Detailed CGM Analysis

12.1 File D002C012

12.1.1 Parser Log MetaCheck

MetaCheck Version 2.05 -- CGM/MIL-D-28003 Conformance Analyzer
Copyright 1988-91 CGM Technology Software
Execution Date: 04/20/94 Time: 12:06:57

Metafile Examined : i:\94029\c212.cgm

Pictures Examined : All
Elements Examined : All
Bytes Examined : All

===== Trace Report =====

Tracing not selected.

===== CGM Conformance Violation Report =====

No Errors Detected

===== CALS CGM Profile (MIL-D-28003) Report =====

Error 6508: Element Class/ID: 1/13 Offset: 82 octets Element No. 8
The FONT LIST element is invalid; it may not contain
more than 4 font names.

===== Conformance Summary Report =====

MetaCheck Version 2.05 -- CGM/MIL-D-28003 Conformance Analyzer
Copyright 1988-91 CGM Technology Software
Execution Date: 04/20/94 Time: 12:06:58

Name of CGM under test: i:\94029\c212.cgm
Encoding : Binary

Pictures Examined : All
Elements Examined : All
Bytes Examined : All

BEGIN METAFILE string : "z87004940000"
METAFILE DESCRIPTION : "AUTO-TROL/REL-1.0 MIL-D-28003/BASIC-1"

Picture 1 starts at octet offset 332; string contains: "z87004940000"

Conformance Summary : This file conforms to the CGM specification.

However, this file does not satisfy
the CALS CGM Profile (MIL-D-28003).

Summary of Testing Performed and Errors Found:

1 Pictures Tested
1731 Elements Tested
17786 Octets Tested

0 Illegal CGM Elements	1000 -	1999
0 Incorrect CGM Element Lengths	2000 -	2999
0 CGM State Errors	3000 -	3499
0 Required CGM Elements Missing or Wrong	4000 -	4499
0 CGM Parameter Values Out of Range	6000 -	6499
0 CGM Structure Errors	7000 -	7499
0 *** CGM Errors Found (total) ***		

0 Profile State Errors	3500 -	3999
0 Illegal Profile Elements	4500 -	4999
1 Profile Parameter Values Out of Range	6500 -	6999
0 Profile Data Limits Exceeded	8500 -	8999
0 Other Profile Constraints Violated	9500 -	9999
1 *** Profile Violations Found (total) ***		

0 Warnings (Advisory Remarks)	20000 -	20999
-------------------------------	---------	-------

1 distinct errors and warnings were reported.

===== End of Conformance Report =====

12.1.2 validcgm Log

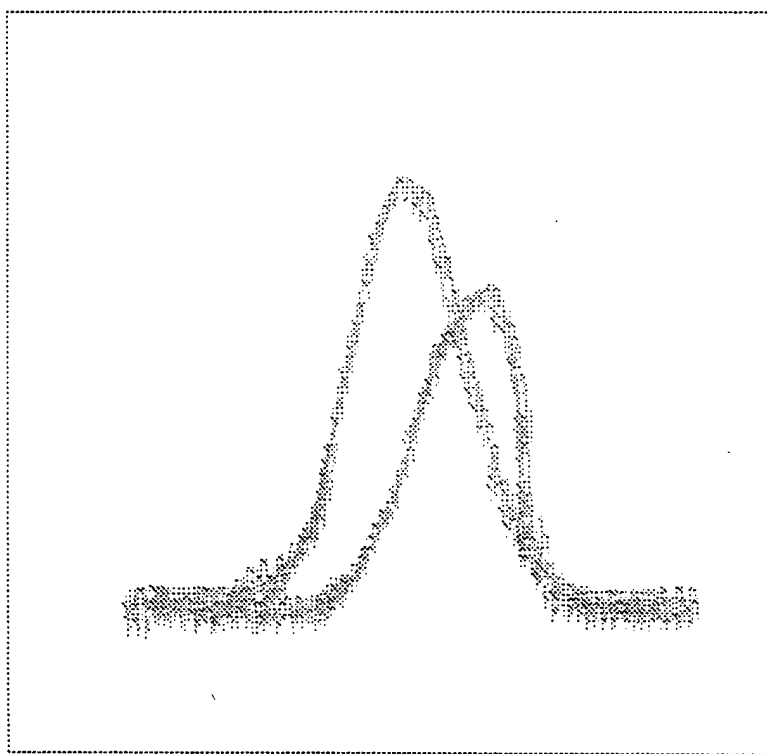
Analysis for file c212.cgm using table table

MILSPEC 28003 error: more than 4 fonts

(8, 82)	(1, 13, 246)	Font List
		"HERSHEY:SIMPLEX_ROMAN"
		"HERSHEY:SIMPLEX_GREEK"
		"HERSHEY:SIMPLEX_SCRIPT"
		"HERSHEY:COMPLEX_ROMAN"
		"HERSHEY:COMPLEX_GREEK"
		"HERSHEY:COMPLEX_SCRIPT"
		"HERSHEY:COMPLEX_ITALIC"
		"HERSHEY:DUPLEX_ROMAN"
		"HERSHEY:TRIPLEX_ROMAN"
		"HERSHEY:TRIPLEX_ITALIC"

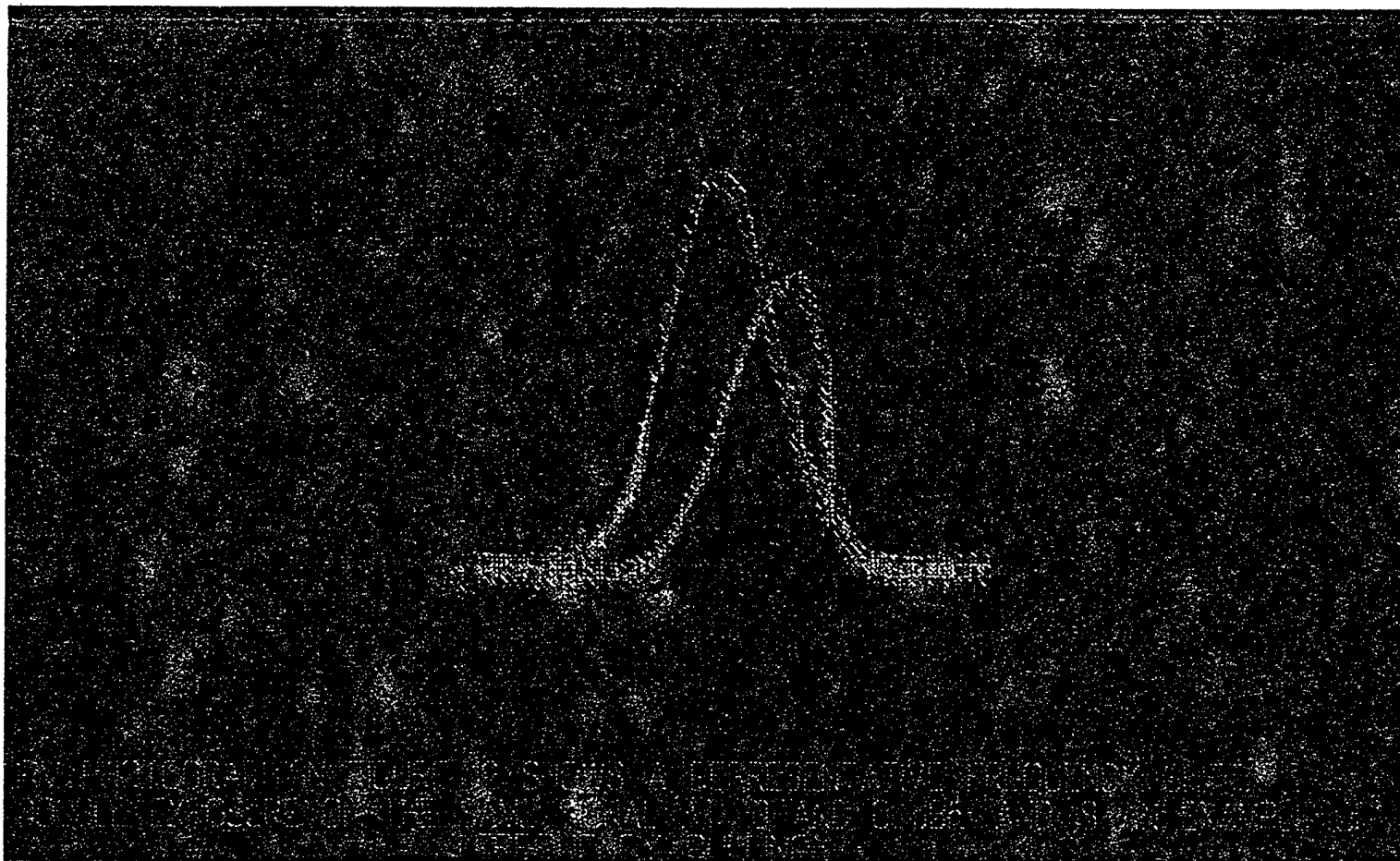
(0, 1) occurred 1 time
(0, 2) occurred 1 time
(0, 3) occurred 1 time
(0, 4) occurred 1 time
(0, 5) occurred 1 time
(1, 1) occurred 1 time
(1, 2) occurred 1 time
(1, 7) occurred 1 time
(1, 8) occurred 1 time
(1, 9) occurred 1 time
(1, 11) occurred 1 time
(1, 13) occurred 1 time
(2, 3) occurred 1 time
(2, 4) occurred 1 time
(2, 5) occurred 1 time
(2, 6) occurred 1 time
(2, 7) never occurred, required by standard B
(4, 1) occurred 1704 times
(4, 4) occurred 3 times
(5, 3) occurred 1 time
(5, 4) occurred 2 times
(5, 14) occurred 1 time
(5, 15) occurred 1 time
(5, 16) occurred 1 time
(5, 18) occurred 1 time
(5, 34) occurred 1 time

12.1.3 Output CADLeaf

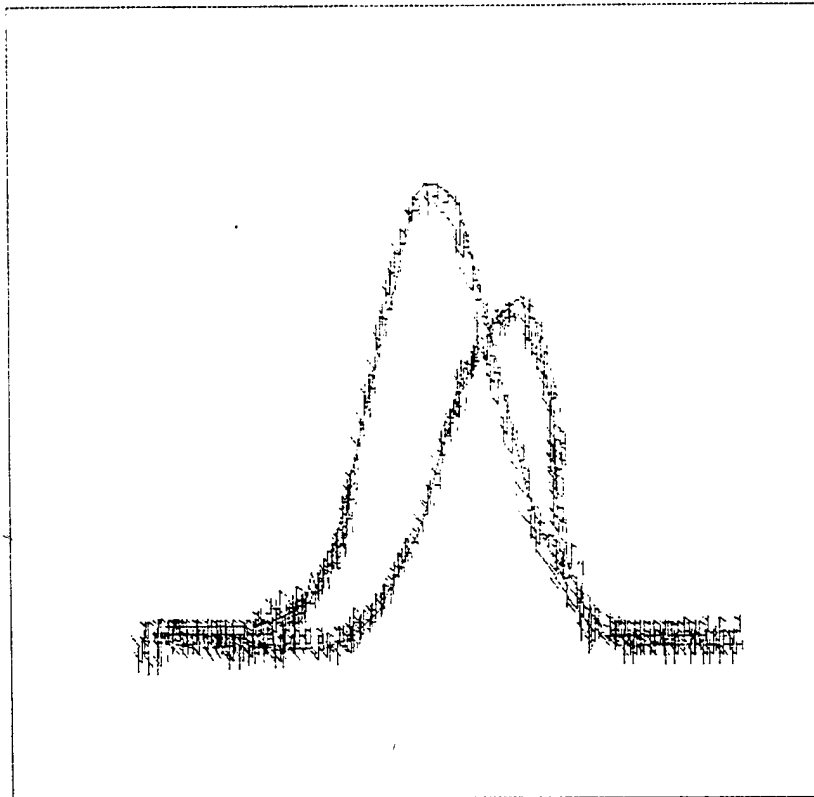


FORM PHOTOGRAPH IN FIGURE 12 SHOWS A REPRESENTATIVE FR
S A DOUBLE EXPOSURE OF THE SAME SIGNAL AT 10 AND 0 dBm .
FREQUENCY PULLING.

12.1.4 Output CALSView

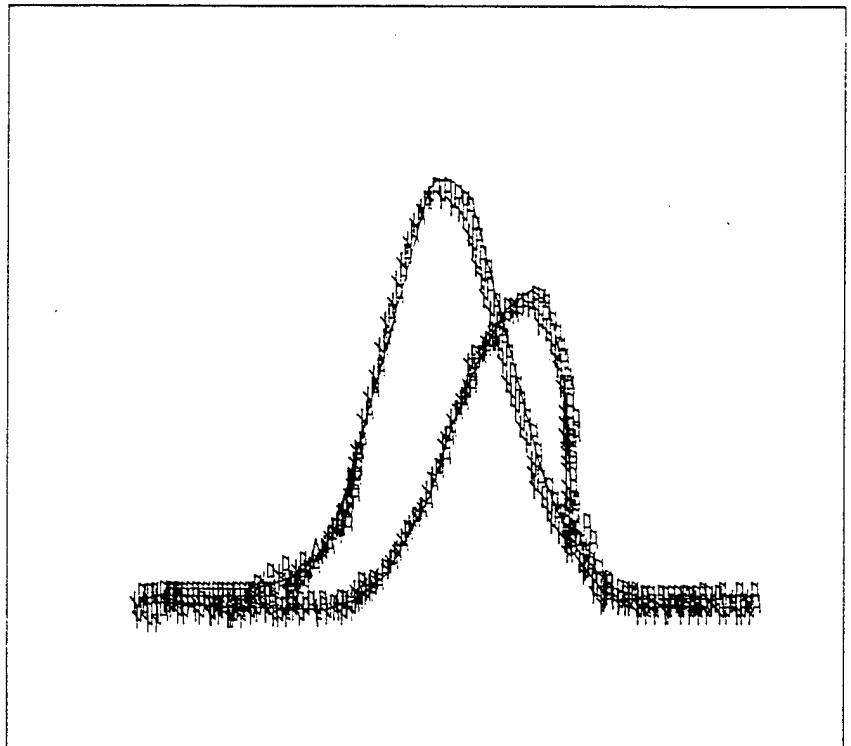


12.1.5 Output cgm2draw/IslandDraw



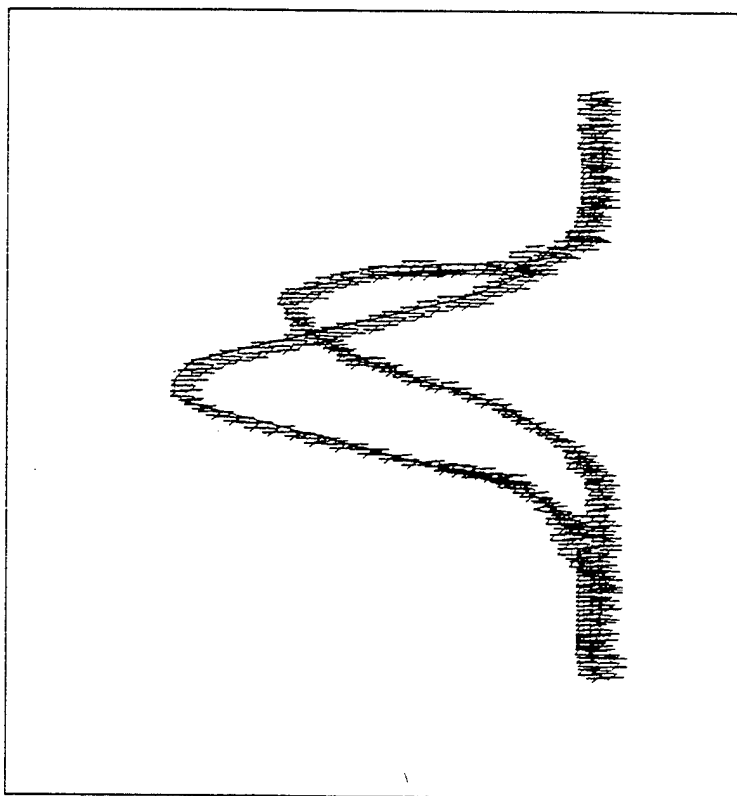
FORM PHOTOGRAPH IN FIGURE 12 SHOWS A REPRESENTATIVE FREQUENCY
DOUBLE EXPOSURE OF THE SAME SIGNAL AT 10 AND 0 dBm AND
FREQUENCY DUTTING

12.1.6 Output Designer



THE WAVEFORM PHOTOGRAPH IN FIGURE 12 SHOWS A REPRESENTATIVE FREQUENCY SHIFT. IT IS A DOUBLE EXPOSURE OF THE SAME SIGNAL AT 10 AND 0 dBm AND IS AN EXAMPLE OF FREQUENCY PULLING.

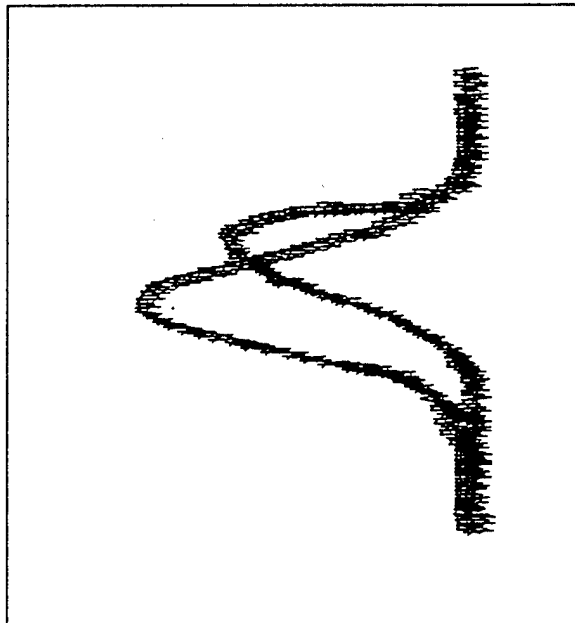
12.1.7 Output Freelance



THE WAVEFORM PHOTOGRAPH IN FIGURE 12 SHOWS A REPRESENTATIVE FREQUENCY SHIFT.
IT IS A DOUBLE EXPOSURE OF THE SAME SIGNAL AT 10 AND 0 dBm AND IS AN EXAMPLE OF
FREQUENCY PULLING.

C212
Freelance

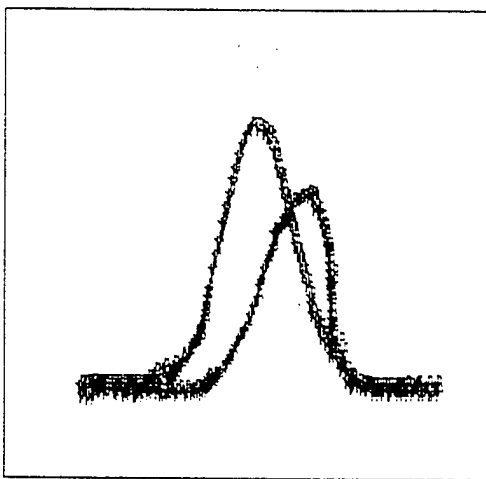
12.1.8 Output Harvard Graphics



FREQUENCY PULLING.

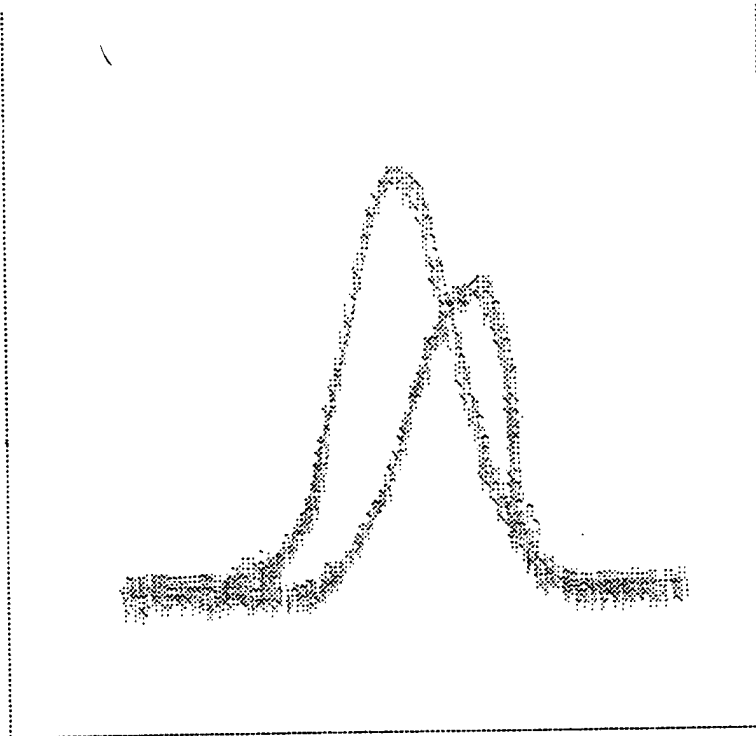
HG305
C212

12.1.9 Output HiJaak Pro



THE WAVEFORM PHOTOGRAPH IN FIGURE 12 SHOWS A REPRESENTATIVE FREQUENCY SHIFT. IT IS A DOUBLE EXPOSURE OF THE SAME SIGNAL AT 10 AND 0 dBm AND IS AN EXAMPLE OF FREQUENCY PULLING.

12.1.10 Output IslandDraw v4.0



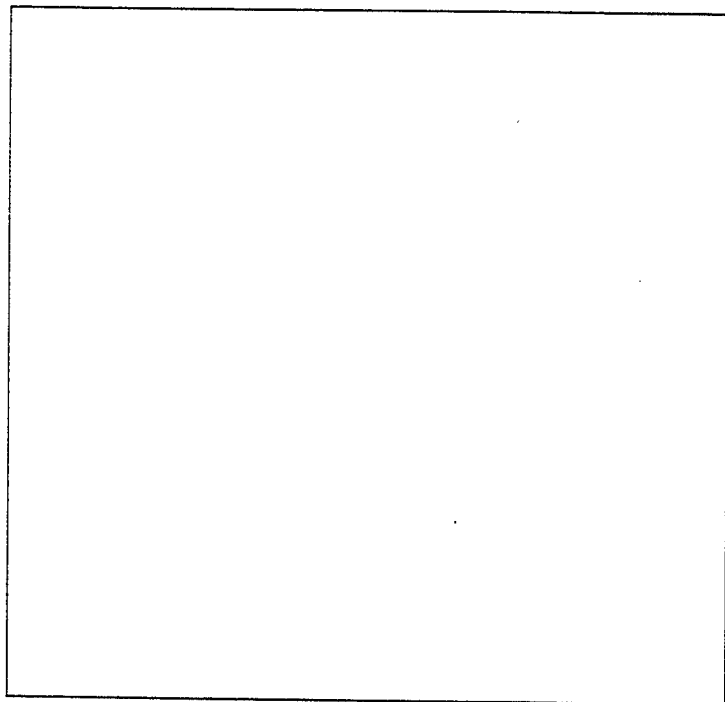
THE WAVEFORM PHOTOGRAPH IN FIGURE 12 SHOWS A REPRESENTATIVE FREQUENCY SHIFT. IT IS A DOUBLE EXPOSURE OF THE SAME SIGNAL AT 10 AND 0 dBm AND IS AN EXAMPLE OF FREQUENCY PULLING.

ID4.0
C212

12.1.11 Output Ventura Publisher

C212

VP



THE WAVEFORM PHOTOGRAPH IN FIGURE 12 SHOWS A REPRESENTATIVE FREQUENCY SHIFT.
IT IS A DOUBLE EXPOSURE OF THE SAME SIGNAL AT 10 AND 0 dBm AND IS AN EXAMPLE OF
FREQUENCY PULLING.